



PTO/SB/21 (09-06)

Approved for use through 03/31/2007. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

9

Application Number

10/604,354

Filing Date

07/14/2003

First Named Inventor

Tao Cheng,

Art Unit

2836

Examiner Name

ROMAN, LUIS ENRIQUE

Attorney Docket Number

MTKP0024USA

ENCLOSURES (Check all that apply)

Fee Transmittal Form



Fee Attached



Amendment/Reply



After Final



Affidavits/declaration(s)



Extension of Time Request



Express Abandonment Request



Information Disclosure Statement



Certified Copy of Priority Document(s)

Reply to Missing Parts/
Incomplete ApplicationReply to Missing Parts
under 37 CFR 1.52 or 1.53

Drawing(s)



Licensing-related Papers



Petition

Petition to Convert to a
Provisional Application

Power of Attorney, Revocation



Change of Correspondence Address



Terminal Disclaimer



Request for Refund



CD, Number of CD(s) _____

☐ Landscape Table on CD

After Allowance Communication to TC

Appeal Communication to Board
of Appeals and InterferencesAppeal Communication to TC
(Appeal Notice, Brief, Reply Brief)

Proprietary Information



Status Letter

Other Enclosure(s) (please identify
below):

1. A copy of the Front Page of Patent
2. Copies of the Filing Receipt
3. A copy of the Foreign Priority data showed
on public PAIR
4. The Form of PTO/SB/44

Remarks

Request for Certificate of Correction of Office Mistake

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name

North America Intellectual Property Corporation

Signature

Winston Hsu

Printed name

Winston Hsu

Date

MAY 04 2007

Reg. No.

41,526

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature

Stephanie Lai

Typed or printed name

Stephanie Lai

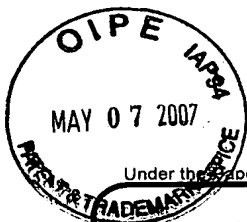
Date

MAY 04 2007

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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MAY - 9 2007



PTO/SB/17 (02-07)

Approved for use through 02/28/2007. OMB 0651-0032

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Effective on 12/08/2004.

Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL

For FY 2007

☐ Applicant claims small entity status. See 37 CFR 1.27TOTAL AMOUNT OF PAYMENT (\$)**0.00****Complete if Known**

Application Number	10/604,354
Filing Date	07/14/2003
First Named Inventor	Tao Cheng,
Examiner Name	ROMAN, LUIS ENRIQUE
Art Unit	2836
Attorney Docket No.	MTKP0024USA

METHOD OF PAYMENT (check all that apply)☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____☒ Deposit Account Deposit Account Number: **50-3105** Deposit Account Name: **North America Intellectual Property Corporation**

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee
☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES**Fee Description**

	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Multiple Dependent Claims
- 20 or HP =	x	=		Fee (\$)

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
- 3 or HP =	x	=	

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 =	/ 50	(round up to a whole number) x	=	

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge):

Fees Paid (\$)**SUBMITTED BY**

Signature	<i>Winston Hsu</i>	Registration No. (Attorney/Agent)	41,526	Telephone	3027291562
Name (Print/Type)	Winston Hsu	Date	MAY 04 2007		

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MAY - 9 2007



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No. : US 7,203,050 B2
Issue Date : Apr. 10, 2007
Inventor : Tao Cheng et al.
Docket No.: MTKP0024USA

Title: NPN DARLINGTON ESD PROTECTION CIRCUIT

To: Commissioner for Patents
P.O. BOX 1450
Alexandria, VA 22313-1450

Subject: Request for Certificate of Correction of Office
Mistake

Dear Sir,

The application number of the Foreign Application Priority Data listed on the front page of the Patent is incorrect (Attachment 1). Documents on record indicate this as an Office mistake of consequence.

The applicant hereby requests that a Certificate of Correction be issued under 37 CFR 1.322 to correct the application number of the Foreign Application Priority Data from "91127074 A" to "91122074 A" which was correctly listed on the Filing Receipt dated 08/15/2003 (Attachment 2) and the Foreign Priority data showed on public PAIR (Attachment 3).

MAY - 9 2007.

Respectfully submitted,

Winston Hsu

Date: MAY 04 2007

Winston Hsu, Patent Agent No. 41,526

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(Note: Please leave a message in my voice mail if you need to talk to me. The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan).

MAY - 9 2007

Please correct the number of the Foreign
Application Priority Data from "91127074
A" to "91122074 A"



US007203050B2

(12) **United States Patent**
Cheng et al.

(10) **Patent No.:** **US 7,203,050 B2**
(45) **Date of Patent:** **Apr. 10, 2007**

(54) **NPN DARLINGTON ESD PROTECTION
CIRCUIT**

(75) Inventors: **Tao Cheng, Hsin-Chu (TW);
Ding-Jeng Yu, Hsin-Chu (TW)**

(73) Assignee: **Mediatek Inc., Hsin-Chu Hsien (TW)**

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 283 days.

(21) Appl. No.: **10/604,354**

(22) Filed: **Jul. 14, 2003**

(65) **Prior Publication Data**

US 2004/0114288 A1 Jun. 17, 2004

(30) **Foreign Application Priority Data**

Sep. 25, 2002 (TW) **91127074 A**

(51) Int. Cl.
H02H 3/22 (2006.01)

(52) U.S. Cl. **361/111; 327/432; 327/483**

(58) **Field of Classification Search** 361/11
See application file for complete search history.

(56) **References Cited**

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William D. Mack and Robert G. Meyer, "New ESD Protection
Schemes for BiCMOS Processes With Application to Cellular Radio
Designs", 1992 IEEE, pp. 2699-2702, U.S.A.

* cited by examiner

Primary Examiner—Brian Sircus

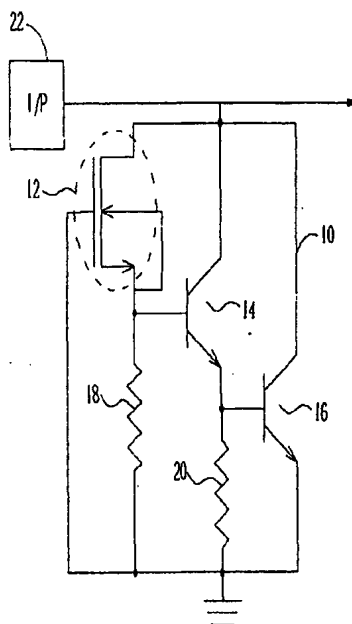
Assistant Examiner—Luis E. Román

(74) *Attorney, Agent, or Firm*—Winston Hsu

(57) **ABSTRACT**

An electrostatic discharge protection (ESD) circuit includes
an NPN Darlington circuit and an n-type metal oxide
semiconductor (NMOS) transistor. The drain of NMOS
transistor is connected to the input end of the NPN Darling-
ton circuit. The source of NMOS transistor is connected to
the control end of the NPN Darlington circuit. The gate of
NMOS transistor is connected to the output end of the NPN
Darlington circuit.

10 Claims, 9 Drawing Sheets





UNITED STATES PATENT AND TRADEMARK OFFICE

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APPL NO.	FILING OR 371 (c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/604,354	07/14/2003	2841	750	MTKP0024USA	9	12	1

CONFIRMATION NO. 1353

027765
NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE)
P.O. BOX 506
MERRIFIELD, VA 22116

FILING RECEIPT



OC000000010704475

Date Mailed: 08/15/2003

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Tao Cheng,, Hsin-Chu City, TAIWAN;
Ding-Jeng Yu, Hsin-Chu City, TAIWAN;



TO:

鄧強 邱毅峰 先生

Domestic Priority data as claimed by applicant

Foreign Applications

TAIWAN 091122074 09/25/2002

MTKI-02-078A

If Required, Foreign Filing License Granted: 08/14/2003

Filing Receipt.

Projected Publication Date: 03/25/2004

Non-Publication Request: No

from: 北美 高个惠

Early Publication Request: No

2003/9/15

Title

NPN DARLINGTON ESD PROTECTION CIRCUIT

Preliminary Class

MAY - 9 2007.

361

**LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15**

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10/604,354	NPN DARLINGTON ESD PROTECTION CIRCUIT	04-19- 2007::23:25:47
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Foreign Priority

Country	Priority	Priority Date
TAIWAN	091122074	09-25-2002

Close Window



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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : US 7,203,050 B2

APPLICATION NO.: 10/604,354

ISSUE DATE : Apr. 10, 2007

INVENTOR(S) : Tao Cheng et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the title page, item (30), correct the application number of the Foreign Application Priority Data from "91127074 A" to --"91122074 A"--

MAILING ADDRESS OF SENDER (Please do not use customer number below):

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